Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Commission's Rules Regarding	)	
the Pricing of Unbundled Network Element	)	WC Docket No. 03-173
and the Resale of Service by Incumbent Local	)	
Exchange Carriers	)	

COMMENTS OF MCI

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EXECUTIVE SUMMARY

The Commission undertakes this review of TELRIC to consider appropriate UNE pricing in light of empirical evidence of TELRIC's effects over the last seven years, and in light of changes in the regulatory environment over that period. When the Commission reviews that evidence, it should conclude that TELRIC remains the best methodology for pricing unbundled network elements, except for certain "old network" functionality that should be priced at the ILECs' long-run incremental cost of supplying the required facilities.

Unfortunately, at times in the Notice of Proposed Rulemaking[1] the Commission appears instead to be inclined to accept the rhetoric and assumptions of the ILECs' polemical attacks against TELRIC. But these arguments are not based on any evaluation of the effects of TELRIC on the market, but instead were formulated before TELRIC was even adopted, and have been thoroughly discredited by the developments of the last seven years.

In our comments we first address the theoretical objections that the ILECs have leveled against TELRIC, which the Commission tentatively embraces at least in part in the *NPRM*. We show that TELRIC does not rely upon the "unrealistic efficiency assumptions" the Commission identifies. *NPRM* ¶ 5. TELRIC rather is based on the universally accepted economic theory that the current value of a piece of equipment is determined by what it would cost to go into the market today and purchase new equipment that performs the same functions as the equipment that is being valued. Accordingly, the most straightforward and verifiable way to *value* the ILEC network is to model a network operating with currently available up-to-date technology, because it is the cost of *that* technology that establishes the value of the technology the ILEC actually has

[1] *In re Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*, 18 F.C.C.R. 18945 (2003) ("*NPRM*").

deployed. This valuation technique does not assume that either the ILEC or its competitors could ever operate exclusively with only the most up-to-date equipment. TELRIC models identify the *value* of a real-world network; they do not identify the equipment that real-world network will be using.

This assumption does not turn TELRIC proceedings into a "black box." *NPRM* ¶ 7. To the contrary, the very point of the "most efficient technology" assumption is that it assures that pricing proceedings will not be mired in impossible valuation exercises concerning a mix of old and new equipment about which only the ILECs have information, but instead will be open and rely on information equally available to all parties.

In other respects the *NPRM,* following ILEC advocacy, attacks hypothetical assumptions that were never part of TELRIC in the first instance. For example, it was never a feature of TELRIC to ignore facts about the physical world, such as where there are bodies of water that need to be got around, or concrete to be dug up. The idea that TELRIC needs to be "improved" to eliminate such counter-factual assumptions is another straw-man. If there are sources for this real-world data the states are unaware of, it would be helpful to bring that to the states' attention. But to direct them to do what they are already otherwise doing is little more than grandstanding.

We also address the *NPRM's* questions about some (but by no means all) of the myriad input issue that arise in any cost proceeding. How these input matters are resolved is typically more determinative of the ultimate rate than the more general theoretical and modeling questions that have generated more controversy, and we are pleased to offer our views on several of these input matters. It is also an area into which the FCC has put a lot of effort in the past. Much of this ground has already been plowed.

Accounting for Growth. Most state commissions (and the FCC itself) have adopted fill factors that largely assume a static network and so do not account for network growth to the same degree that actual ILEC fill factors do. This generally results in a slight overstatement of costs, since it ignores some of cost savings derived from the larger network that a more dynamic model would capture. In the *NPRM* the Commission proposes that a more dynamic model that incorporates the ILECs actual fill factors would be more appropriate. It would not. A dynamic network would be more difficult to model, and the potential slight gain in precision does not justify the loss of simplicity and clarity that the more complicated modeling would entail.

Switch Discounts and Rate Structures. Because the ILEC models for determining switch costs typically utilize the retail list price of the switch (and switch add-ons) as cost inputs, and because the manufacturers routinely offer substantial discounts off of those list prices, the subject of the appropriate way to integrate switch discounts into the cost studies has been an issue in many cost cases. The appropriate resolution is more a matter of mathematics than ideology. In its recent Virginia Arbitration Award the Wireline Competition Bureau created a straightforward formula for determining the appropriate mix of initial investment and add-on investment (each with its corresponding discount) that for the most part the Commission should adopt here, putting this issue finally to rest.

Additionally, there is agreement that rate structures should reflect the manner in which costs are incurred. We demonstrate that the ILECs pay for the switch on a per-port flat-rated basis, and that the installed switch matrixes have virtually unlimited capacity. For that reason, charging switching on a minutes-of-use basis creates uneconomic distortions and also creates needless disputes about customer usage patterns that are avoided when such usage-sensitive rates are avoided.

Cost of Capital. In a fully competitive environment, the principal goal in investment financing is cost-minimization. Accordingly, cost of capital inputs, and particularly the applicable equity-debt ratio, must be designed to achieve that goal. In addition, cost of capital must be adjusted in light of the recent *Triennial Review Order's*[2] exclusion of a range of network elements from ILECs' unbundling obligations. To the extent that such elements increase the risk of financing network investment, their unavailability necessitates an appropriate adjustment in TELRIC cost of capital determinations so that the cost of capital reflects the risk of investing in the "old" network that remains subject to unbundling.

Depreciation Expense. FCC–prescribed regulatory lives remain the most appropriate measure of depreciation expenses. The proffered alternative, so-called GAAP lives, are far less reliable. In addition, GAAP lives are highly inconsistent with both actual network retirement experience and forward-looking network retirements. As a non-cash expense, depreciation is particularly difficult to quantify and the ILECs have a powerful incentive to manipulate the expense to their advantage. Accordingly, transparent and verifiable data and modeling is critical. FCC regulatory lives produce the most accurate and most forward-looking measure of depreciation expense and minimize the extent to which the pricing process is compromised by unverifiable, self-reported data.

Non-Recurring Charges. High non-recurring charges are barriers to entry and so are inconsistent with the Act's competitive purposes. Accordingly, wherever possible and appropriate, costs should be assessed on a recurring basis. Even where an expense is occasioned by a particular CLEC request, an NRC is appropriate only if the resulting network improvement

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[2] *In re Review of the Section 257 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 F.C.C.R. 16978 (2003) ("*TRO*").

or function is *only* available to the requesting CLEC. If, as is usually the case, the request occasions an improvement that can be used to service other CLECs, or benefits the ILEC itself, an NRC is inappropriate. By minimizing the use of NRCs, pricing can eliminate competition-distorting cross-subsidies and so better achieve the competitive market contemplated by the 1996 Act.

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COMMENTS OF MCI

Pursuant to Section 1.2 of the Commission's Rules, 47 C.F.R. §1.2, and the Commission's Notice of Proposed Rulemaking of September 15, 2003, in the above-captioned matter, MCI submits these comments.

I. INTRODUCTION

In this proceeding, the Commission undertakes "a comprehensive review of the TELRIC methodology" in light of seven years of experience under the initial rules. *NPRM* ¶ 1. The Commission begins this inquiry with sound premises. Pricing rules should encourage competitive entry, otherwise send correct economic signals to both ILECs and CLECs, and compensate the ILECs. As the Supreme Court held in *Verizon Communications, Inc. v. FCC,* 535 U.S. 476, 489 (2001), the first of these goals is paramount. The cost methodology mandated by the 1996 Act was unique because "[f]or the first time, Congress passed a ratesetting statute with the aim not just to balance interests between sellers and buyers, but to reorganize markets by rendering utilities' monopolies vulnerable to interlopers." *Id.* And while compensation for the ILECs remains a requirement of any cost methodology, the Court held further that Congress "explicitly disavowed" traditional models where this goal was paramount "in favor of novel

ratesetting designed to give aspiring competitors every possible incentive to enter local retail telephone markets, short of confiscating the incumbents' property." *Id.* As these are the requirements of the Act, conclusively identified by the Supreme Court, the FCC has no authority to set any different balance or priority.

The FCC here correctly takes as a given that forward-looking pricing best accomplishes these goals, and reconsiders whether TELRIC is the most effective form of forward-looking pricing.

As the Commission observes, *NPRM,* n.4, the last seven years have produced empirical data relevant to these questions. The industry is awash in excess capacity that resulted in part from excessive facilities production that occurred after enactment of the Commission's TELRIC rules. TELRIC evidently did not suppress this facilities-based competition. At the same time, the incumbents who provide these facilities retain relatively healthy balance sheets and have not found it profitable to compete out of region by leasing other incumbents' facilities at TELRIC rates. Many competitors whose business depended upon leasing facilities at TELRIC rates, in contrast, have long since departed the market. Those that remain struggle to survive. Under TELRIC as it has been applied, it is clearly better to be a lessor of the ubiquitous ILEC networks than a lessee.

The recent *Triennial Review Order* ("*TRO*") also significantly impacts the Commission's TELRIC analysis. In the Commission's view, prior to the *TRO,* in setting appropriate economic signals the pricing rules had to assure that rates were not set too low. Uneconomically low rates might lead CLECs to lease when it would be more beneficial for them to build, and also might suppress ILEC investment in new network facilities. After the *TRO,* neither of these reasons continues to apply with the same force. Under the new "impairment" standard, elements are not

available for lease when CLECs might economically supply them on their own, so low lease rates will not lead CLECs to lease when they could build. And the *TRO* also denies CLECs access to "new" network facilities in order to incent the ILECs to deploy these facilities, so pricing rules can have no incentive effect on ILEC investment in these facilities.

Moreover, after the *TRO,* the Commission needs to decide the appropriate way to price retired and soon-to-be obsolete network assets when the current supply of those "last generation" assets is substantially greater than any possible future demand for their use. The competitive market price for such assets plainly is well below the TELRIC price.

Although the Commission convenes this proceeding to reconsider what had been a "theoretical exercise" in light of actual market behavior and these new regulatory developments, *NPRM* ¶ 2, remarkably, the tone of the notice and many of its suggestions pay no heed to these market and regulatory developments. Instead, it adopts advocacy positions formulated by the ILECs seven years ago, before there was any experience with TELRIC, and under an entirely different regulatory regime. That advocacy position is that TELRIC rates are too low. The ILECs have re-asserted that position more and more shrilly as it becomes less and less plausible in light of the actual experience of the market. Now that the real world evidence has made clear, in the Supreme Court's words, that this claim "founders on fact," *Verizon,* 535 U.S. at 516, the ILECs' advocacy has reached a fever pitch, and has become totally unmoored from the realities of the marketplace and the new regulatory environment. It is richly ironic that the ILECs' "Through the Looking Glass" view of the world is predicated on their asserted preference to closer "fidelity to the real world." We look forward to this proceeding, because the ILEC arguments will not withstand the kind of empirical scrutiny they claim to embrace.

Most of the ILECs' rhetoric, and a good deal of the language at the front end of the *NPRM,* is targeted at a straw man – cost models that prefer the "hypothetical" to the "real." In truth, there is no dispute that costing should rely on verifiable, empirical data derived from the "real world." The *NPRM's* assumption that TELRIC is marred by an irrational prejudice in favor of conjecture is based on seven years of ILEC sound bites and not on any feature of TELRIC. But it is not possible to establish costs of networks the size and complexity of those at issue here without modeling and sampling, and all modeling and sampling is "hypothetical" as that word is used loosely in the *NPRM.* (*See* Attachment A, Declaration of Michael D. Pelcovits, at 18-19) ("Pelcovits Decl.") State commissions simply cannot go out with a measuring tape, pencil and paper and count outside plant; nor can they inspect the ILECs' checkbooks for entries under "loop," "switch" and "transport" and see how much the ILECs paid for each of these items. (*Id.*, at 21, 24).

What is really at issue in the fight over "hypothetical" versus "real" are three very different sets of concerns.

The first is whether the ILECs are going to be allowed to recover their embedded costs, no matter how much the cost model is labeled "forward-looking." Because the statute does not permit the recovery of these costs, and because the FCC has correctly determined that it would be bad policy to allow the ILECs to do so in any event, the ILECs have recast their demand for recovery of such costs in incoherent verbal constructs such as "real forward-looking costs," and Rube Goldberg-like cost models that, upon inspection, are designed to recover embedded costs. (Pelcovits Decl., at 26-30).

The second dispute masked behind the "real" versus "hypothetical" rhetoric is whether the information necessary to establish costs is to be transparent and verifiable, or whether the

state commissions instead will have no choice but to take the ILECs' claims on faith, or hire teams of accountants and pour through millions of pages of ILEC books of accounts, spreadsheets, and formulae that purport to extract from these embedded costs the forward-looking cost of the wholesale network. (Pelcovits Decl., at 30-32).

The third dispute hidden beneath the rhetoric is whether the FCC's cost model will allow state commissions reliably to allocate costs properly within the network. The ILECs have a powerful incentive to attribute costs to the facilities (and functionalities of facilities) that must be unbundled, and away from facilities and functionalities that competitors either do not need or denied access to by FCC rules. The more a cost model starts from the ILECs' existing network and its books of accounts, the more difficult it becomes properly to capture only the functions and facilities of the wholesale network that are subject to unbundling. (Pelcovits Decl., at 20).

As we will show in what follows, for most UNEs, TELRIC is the most preferable cost model not because it is "hypothetical" or because it inevitably produces "low" costs. It is preferable because it reliably produces forward-looking costs with transparency and relative simplicity on an element-by-element basis.

II. THE GOALS OF UNE PRICING

The *NPRM* observes that UNE pricing rules should allow rates to be set in a verifiable and reliable manner, permit the ILECs to recover their forward-looking costs, send efficient entry and investment signals to all competitors.

A. TELRIC Reliably Identifies Costs.

Pricing models have strengths and weaknesses: Some are more robust, some produce more verifiable results, some are simpler to apply, some (like TELRIC) are particularly strong at identifying costs on an element-by-element basis. But they are all models, and they all rely on

abstractions and simplifying assumptions that apply more or less well in particular circumstances. At least in theory, they all ought to generate roughly similar results when populated with accurate inputs.

The Commission chose TELRIC over the proposed alternatives in 1996 not because it was configured to generate "low" rates, but because it had certain features the Commission found valuable to the task at hand. The Commission's judgment in this regard has proved correct, and those features are every bit as valuable today. Indeed, in certain respects those features are even more important today. For example, as we describe in what follows, TELRIC is the best method for properly attributing costs to particular network elements. Previously, when virtually the entire network was subject to unbundling, this feature of TELRIC was less important. Now that fewer and fewer elements (and functionality of elements) are available for lease, this feature of TELRIC takes on special importance, because the ILECs have a powerful incentive to attribute costs to those functionalities and varieties of elements that are subject to unbundling, and away from functionalities and varieties of elements that are no longer subject to unbundling.

Similarly, because it is a bottom-up method whose formula are transparent and whose inputs are for the most part derived from publicly available data, TELRIC is the most transparent and verifiable method for establishing cost of those that have been proposed. (Pelcovits Decl., at 5). Cost proceedings are contested, and since it is the functionality of the ILECs' wholesale network that is being modeled, there is an inevitable asymmetry of information that any acceptable model must address. (*Id.*, at 30-32).

The ILECs, moreover, do not have records that accurately reflect in separate accounts the particular features of their network that need to be valued to establish network costs. Instead, the

ILEC claims that pricing should be based more on their real-world network mask ILEC efforts to tie cost studies to ILEC books, ILEC sampling techniques, and ILEC cost adjustments. These records are proprietary, and only the ILECs are in a position to know how they are generated. They are not easily verifiable. And because the ILECs books and records do not reliably provide the necessary information about their "real" network, the data derived from these books and records by necessity is mediated by ILEC proprietary models, assumptions, and sampling that are every bit as "hypothetical" as those used in TELRIC models. (Pelcovits Decl., at 18-21). Indeed, the modeling, sampling, factoring, and other manipulation of ILEC data is far less reliable than that required by TELRIC, because TELRIC's inputs are collected from the ground up for the specific purpose of deriving element rates, while the data derived from the ILECs' "real" network are not collected and maintained for that purpose.

TELRIC addresses this problem by modeling a network from the ground up that has the functionality of the ILECs wholesale network, is sized to serve all customers, and is made up of equipment currently on the market whose prices and functionality are not a matter of conjecture. Its assumptions – size, cost of equipment, network structure, and all others – are express and open to challenge. (Pelcovits Decl., at 34). While it does not completely eliminate the ILECs' informational advantage, it does so to the greatest extent possible.

B. ILEC Claims That TELRIC Does Not Permit Them to Recover Their Costs Are Groundless.

Since 1996, before there was any relevant empirical evidence to consider, ground zero of the ILECs' war on TELRIC has been the claim that TELRIC does not allow them to recover their costs. The ILECs base this claim on the difference between the book value of the network based on their accounting records, and the lower valuation derived from TELRIC models. These

claims are meaningless. The comparison is one of apples to oranges. The network that the ILECs' books value is their entire local phone network, their intraLATA toll network, and their interLATA networks. The network that TELRIC values is a different and smaller network: the network elements that are made available to competitors on a wholesale basis, and are also utilized by the ILECs as inputs to their own downstream services. The embedded network includes such things as an extensive and expensive network of loop facilities used to provide Centrex service that is not part of the forward-looking network. The embedded includes facilities used to provide "non-qualifying services," "information services," and facilities not subject to unbundling. The forward-looking network does not. The embedded network includes facilities an efficient provider would not have built (and that would not be recoverable under any cost recovery model). The forward-looking network does not. The embedded network is built to anticipate future demand. In the forward-looking network, if future demand is anticipated, cost models need to be adjusted so that current users do not pay for facilities they do not use. The embedded network includes retail services expenditures, such as customer care and billing expenses. The forward-looking network does not.

When the ILECs make extravagant claims of underrecovery, they point only to this irrelevant comparison. They have offered no demonstration based on a more granular and precise review of particular embedded costs associated with a network element that attempts in any way to take account of relevant differences, so that a meaningful comparison might be made. *See NPRM, ¶ 40* n.81 (citing *Local Competition Order*[3] ¶739 (ILECs may seek recovery of embedded cost at FCC)).

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[3] *In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 11 F.C.C.R. 15499 (1996).

Similarly, while they continue to claim substantial under-recovery, and point to features in TELRIC that they believe lead to this under-recovery, the ILECs have never attempted to place a dollar value on the TELRIC "errors" they identify. If they did so, they would be forced to acknowledge that these "errors" are insignificant as a practical matter, even if the ILECs' theoretical arguments were credited in full. For example, a repeated theme of the ILEC attack on TELRIC is that it fails to account for the declining value of assets in their network. Their favorite example is the processor component of the switch – a large computer, which like all computers has fallen in price. As we will describe later, the claim that TELRIC does not account for this decline in value is false: economic depreciation rates are able to account for this phenomenon. But leaving that aside, the processor in a switch is only one, relatively small, part of the network (indeed, as processor prices have declined it has become an increasingly smaller part of the network). In other parts of the embedded network (including in particular those that involve substantial labor cost components, such as the loop plant) forward-looking costs likely are higher than embedded costs, and other parts of the network the value has stayed roughly the same. While the ILECs (falsely) claim that TELRIC fails to account for the cost of assets that have declined in value, they never attempt to demonstrate what the overall effect of this alleged error has been on the totality of elements priced at TELRIC and on their own ability to recover historic costs, given a network whose overall value may or may not be declining in value. *See Verizon,* 535 U.S. at 520 ("It is well to start by asking how serious a threat there may be of galloping obsolescence requiring commensurately rising depreciation rates. The answer does not support the incumbents. The local-loop plant makes up at least 48 percent of the elements incumbents will have to provide . . .[and] [w]e have been informed of no specter of imminently obsolescent loops requiring a radical revision of currently reasonable depreciation.").

The same point can be made about virtually all of the ILECs other theoretical criticisms of TELRIC. For example, while they make a series of related (and meritless) claims about TELRIC's supposed "efficiency" assumption, the ILECs never have attempted to show the extent to which this "error" actually has any effect on their ability to recover embedded costs.

Given that the ILECs have devoted extraordinary resources to making the case against TELRIC, the Commission should feel comfortable in concluding that when the ILECs have failed to support their rhetoric with any empirical or analytic evidence, it is because they have no case to prove.

The most reliable way to measure TELRIC's success is by the ILECs' behavior, not their rhetoric. If TELRIC rates had made it more economical to lease than to build, there would be at least some evidence of ILECs leasing other ILECs' facilities at TELRIC rates to compete out of region. The absence of such behavior is powerful evidence that the ILECs themselves do not believe that TELRIC makes ILEC network elements available at bargain basement rates, whatever their advocacy position.

C. Appropriate Entry Signals

The Commission correctly concludes that a pricing methodology should to the greatest extent possible send appropriate pricing signals. (Pelcovits Decl., at 11). And the Supreme Court has held that under the Act the paramount goal of UNE pricing must be the promotion of competitive entry. All other concerns are secondary. *Verizon*, 535 U.S. at 539-40. The FCC's pricing methodology, then, must be measured principally against this goal. The Commission should find that TELRIC sets the upper limit of rates that best promotes these goals, and that in some cases long-run incremental cost ("LRIC") is a more appropriate cost standard.

Prior to the *TRO,* in the Commission's view, pricing methodology had to be calibrated to address other concerns. Specifically, the FCC concluded that rates should not be set so low that they would discourage both ILEC and CLEC investment. TELRIC accomplishes that goal. By design it provides ILECs an appropriate return on their investment, and so does not discourage that investment. And, it gives CLECs the right incentives to invest in things that make the most economic sense. (Pelcovits Decl., at 10-12). Today, however, given changes in the regulatory environment, these concerns are no longer as relevant to pricing methodology.

ILEC Investment. Prior to the *TRO,* the Commission believed that artificially low rates could suppress new and speculative ILEC investment, because low wholesale rates would not permit the ILECs to obtain sufficient return on their investment. While this potential disincentive effect is fully addressed with appropriate cost of capital inputs in a TELRIC model, the FCC felt the problem was significant enough that in the *TRO* it has denied competitors unbundling rights altogether to these new network facilities. Assuming this ruling stands,[4] pricing rules no longer need to guard against this disincentive effect – CLECs can no longer lease these facilities at any price.

CLEC Investment. Prior to the *TRO,* in the Commission's view, there was a risk that artificially low rates might lead CLECs to lease facilities when, absent those rates, they could profitably build them. In that way, in the FCC's view, low rates potentially suppressed facilities-based competition. TELRIC does not set rates too low, and as we indicated at the outset, empirical evidence of substantial facilities investment shows that TELRIC did not have that effect. In any event, in the *TRO* the FCC once again addressed this problem directly in its

[4] MCI and other competitors have petitioned the reviewing appellate court to reverse the FCC on this point.

unbundling rules. Under these rules, the only network elements available for lease are those that competitors need to be able to share in order to compete. If elements are available for lease, they cannot economically be duplicated by the CLEC. Therefore there is little risk that lease rates for these essential facilities will suppress facilities-based competition. On the other hand, rates that do not permit CLECs to compete using the leased facility will eliminate *efficient* competition, and may eliminate competition altogether. This is a radical change from 1996, when the Commission's unbundling rules required that any element that could be unbundled as a technical matter had to be unbundled.

All that being so, fidelity to the Act requires the Commission to establish a pricing methodology that to the greatest extent possible encourages entry by competitors who can operate efficiently in downstream markets, but remain dependent on the ILECs for crucial bottleneck inputs. There are no other interests that outweigh this paramount goal. Of all available pricing methodologies, in most situations TELRIC best accomplishes this goal, although if state commissions do not apply it scrupulously, TELRIC will result in rates that are too high to accomplish this goal. TELRIC does so in two ways.

First, as previously indicated, TELRIC provides the most accurate results. It permits fair and open adversarial proceedings. It best prevents the ILECs from shifting costs onto elements and functionalities that must be shared, and away from other components that are not subject to unbundling. And, it best prevents the ILECs from recovering their embedded costs. (Pelcovits Decl., at 30-32).

Second, accurate forward-looking pricing best assures that the ILECs will not be able to engage in a "cost-price squeeze." In a price squeeze, ILECs engage in monopoly leveraging by charging above-cost rates for upstream facilities that must be shared, thereby making

competition in downstream markets that rely on these facilities more difficult. (Pelcovits Decl., at 9-11). Since the competitors must purchase this facility from the ILECs at a rate that is higher than the ILECs' marginal cost (and since the price CLECs pay becomes a component of their own marginal costs), the CLECs' marginal costs to that extent is higher than the ILECs' marginal costs. Suffering from this disadvantage, the CLECs will be reluctant to enter the market at all, for they know that the ILECs can respond to entry by lowering their retail rates to a level that approaches their own, lower, marginal costs, making it impossible for the CLECs to earn a profit. *Id.*

The result of a price squeeze is that customers lose the benefits that derive from competition in the shared portion of the network, where competition would reduce rates towards a level that approaches the cost of those shared facilities. More important than that, consumers also lose the benefits that would derive from competition in the unshared, downstream, portion of the network, competition that is enabled by access to upstream inputs. Monopoly leveraging thus shuts out competitors that are more efficient, and offer better services at lower prices.

D. The Special Case of Pricing Retired and Soon-to-be Obsolete Equipment.

The *TRO* "made a number of significant changes to the regime for determining what elements must be unbundled by an incumbent LEC." *NPRM* ¶ 42. In particular, the Commission ruled that the ILECs did not have to make available unbundled access to newly deployed fiber loops or to the packet-switching features, functions, and capabilities of their hybrid loops. Competitors like MCI that wish to provide broadband services must instead use "old network" copper loops that the ILEC may have retired. The Commission also extended its ruling that the ILECs do not need to unbundle access to next-generation packet switching equipment.

The Commission's decision to restrict the unbundling requirements to the "old" narrowband circuit switched network, when the ILECs are making substantial investments to transition their "new" broadband network, raises significant issues for the rules governing the pricing of network elements.

The pricing rules should be different when the "old" network is being phased out, very few new investments are being made to handle the demand for use of these old facilities, but competitors must rely on these facilities because they are denied access to "new" network facilities. Under these conditions, pricing rules no longer need to create the right incentives for the ILECs or the CLECs to invest in the network. ILEC investment in the new network will not be artificially suppressed by prices that are lower than TELRIC, because the UNE pricing rules that apply to the old network will not apply to the new functional capabilities of the new network. (Pelcovits Decl., at 48).

The UNE pricing rules governing the old network also should not encourage the CLECs to build rather than buy. As long as there is sufficient capacity in the old network to handle all present and future demand, it would be inefficient for the CLECs to replicate the ILECs' soon-to-be obsolete network equipment. Therefore, there is no danger in setting old network-UNE prices too low, so long as total demand can be accommodated on the existing capacity.

In competitive industries, the rental price for obsolete assets for which there is abundant supply is the long run incremental cost (LRIC) of serving additional demand. When there is an excess supply of this asset, the only component of long run incremental cost will be the variable cost of maintaining and operating those assets. The reason for this is that the owners of the assets have an incentive to rent the asset at any price which exceeds its operating cost, rather than allow the asset to be idle. So long as there is some use for the old technology equipment, where

the price of the services or goods it produces exceeds the variable cost of operation, it will be used, rather than scrapped, and the rental rate will be driven to its incremental cost.

Accordingly, if retired and obsolete copper wire and circuit-switch capacity were available from several competing sellers, the price would be very low. Allowing the ILECs to charge high UNE prices for these facilities would inefficiently give the CLECs the incentive to either waste money investing in obsolete equipment, or force them to wait several years until they could invest in the new technology. It would also give the ILECs greater ability to engage in price squeezes in downstream retail markets.

Since the CLECs will be denied access to the ILECs' broadband network, they must rely on home-run copper loops to gain last-mile access to their customers. As the ILECs increase investment in fiber loop facilities, there should be even more spare copper plant available for lease by the CLECs. The copper plant is already in the ground and has no other use, or opportunity cost, except as scrap metal. Therefore, these copper loops should be made available to the CLECs at their long run variable cost. And, if the long run incremental costs of the old network elements is higher than the TELRIC prices that prevailed when the CLECs and ILECs both used the same network, then the price should not increase. It would unfair for the Commission to impose higher costs on competitors as a result of its decision to deny the CLECs access to the capabilities of the new network. (Pelcovits Decl., at 48).

III. TELRIC EFFICIENCY ASSUMPTIONS

The centerpiece of the ILECs' challenge to TELRIC, and what the FCC calls a "central internal tension in the application of TELRIC," *NPRM* ¶ 50, is that TELRIC assumes a network sized large enough to benefit from all the scale economies in the ILECs' networks, while at the same time it assumes that this large network is made up of only the most up-to-date equipment.

In the real world, however, a network of this size would by necessity be made up of a mix of old and new equipment, and would lack the efficiency of the hypothetical TELRIC network. This is said to reduce the TELRIC cost to below that found even in the most efficient network in the real world.

As we have established in the last section, the ILECs have never tried to put a dollar value on this alleged inconsistency. More fundamentally, this criticism is groundless, no matter how many times it has been repeated by how many economists in the ILECs' stable. Indeed, it is the precise criticism of TELRIC that the ILECs took to the Supreme Court, and that the Supreme Court rejected as "contrary to fact." *Verizon,* 535 U.S. at 504. The FCC now tries to distance itself from its own successful advocacy at the Supreme Court, claiming that the Supreme Court merely found TELRIC one acceptable alternative among many. But that does not accurately describe what the Supreme Court held. The Court definitively concluded that "TELRIC does not assume a perfectly efficient wholesale market or one that is likely to resemble perfection in any foreseeable time." *Id.* And, it held that the Act's language "places a heavy presumption against any method resembling" the "actual" network models proposed by the FCC in this *NPRM.* These were necessary components of the Court's holding and bind the Commission.

A. TELRIC Identifies the Value of the Wholesale Network, Not Its Physical Configuration.

The Supreme Court also is right. It is of course true that no network as large as the ILECs' is composed entirely of brand new equipment. But TELRIC is not a model designed to predict the kind of equipment that will be found in a network. It is model designed to calculate the *value* of the equipment in a network. (Pelcovits Decl., at 14-16). The valid economic assumption supporting TELRIC's "hypothetical network" is that the most straightforward way to

value the equipment in a network (no matter its vintage), is to calculate what it would cost today to replicate the functionality of that equipment.

The economic justification for this assumption is that the availability of new technology drives down the price of old technology. (Pelcovits Decl., at 15). The value of an old desktop computer does not relate to what the consumer paid for it, but how much it would cost today to purchase a computer with similar computing power. That is so regardless of what kind of equipment is in the old computer. As the Supreme Court put it in rejecting the same argument the Commission is poised to embrace here, "what the incumbents call the 'hypothetical' element is simply the element valued in terms of a piece of equipment an incumbent may not own." *Verizon,* 535 U.S. at 501.

Thus, when the Commission asserts that TELRIC assumes that "competitors would deploy the most efficient technology on a widespread basis," *NPRM* ¶ 57, it is wrong. TELRIC makes no assumptions about deployment because valuation does not depend upon widespread deployment of new technology. (Pelcovits Decl., at 14-16). In the real world, price drops are not contingent upon "the deployment of new technology on a widespread basis." Price drops instead reflect the *possibility* of such deployment. New Pentium Processors lower the value of old computer processors as soon as those new processors become available. It is irrelevant whether they are deployed "on a widespread basis." TELRIC faithfully mimics this competitive dynamic: the availability of new technology establishes the value of the technology actually deployed in the network. And while this effect exists only in competitive markets, it is the goal of TELRIC to replicate costs in a competitive market.

B. TELRIC Can Account for the Decline in Value of Network Equipment.

The ILECs respond that under TELRIC they never recover their investment in assets that decline in value. That too is wrong. Both in TELRIC models and in the "real world," the way declining value of network equipment is taken into consideration is through depreciation expenses. (Pelcovits Decl., at 16). As we describe in more detail in the following section on depreciation, TELRIC allows for the use of "economic depreciation," that is, it may take into account not only the physical life of an asset, but its economic life, its value over time in light of the advent of more efficient technology. And declining values due to the advent of new technology are addressed in depreciation schedules by allowing the ILECs to recover more of the cost of the equipment early in its useful life and less towards the end of its life when its value has declined. Thus, as the Supreme Court again conclusively found, the ILECs' argument "rests upon a fundamentally false premise, that the TELRIC rules limit the depreciation . . . costs that ratesetting commissions may recognize." *Verizon,* 535 U.S. at 519.

C. Modeling the Actual ILEC Network Would Not Improve the Accuracy of Model Results.

Many of the proposals offered in the *NPRM* to "resolve" this non-existent conflict are based on a misunderstanding that TELRIC is designed to model how equipment is actually deployed in the network, and they would cause more harm than good. Thus the *NPRM* discusses the possibility of changing TELRIC so that instead of "instantaneous deployment" of new technology, it "reconstructs the network over time." *NPRM* ¶ 68. Such a model would, indeed, better replicate how equipment is added to the network. But it would greatly complicate cost modeling by requiring the modeling of different mixes of technology each subject to different depreciation schedules. It would also require state commissions to resolve thorny valuation

questions about how much it would cost to purchase older technology. *See id.* ¶ 69 (asking "how should a state commission determine the price for equipment in the incumbent LEC network that no longer is widely used?") The Commission's assumption that a model that more faithfully mimics actual ILEC deployment "would be easier for state commissions to implement than the current TELRIC regime," *id.* ¶ 60, thus has it completely backwards. It would be a far more complex model and far more difficult to implement. That added complexity and controversy over the appropriate "mix" would merely greatly increase the risk of inaccuracy. It would also greatly increase reliance on data derived from the ILECs' embedded networks, and as such is an example of one concern (the need for models to be more grounded in the real world) masking an entirely different agenda (importing embedded costs into the cost calculation, and giving the ILECs an unwarranted informational advantage. *See NPRM* ¶ 60).

And, assuming that depreciation is appropriately set, the added complexity would provide no countervailing benefit. The result should be virtually no different than a model that used only the most recent technology. (Pelcovits Decl., at 17). That is so because the remaining value in "old technology" modeled in the more complicated model, subject to proper economic depreciation, ought to be the same as the value of the new technology modeled in the more straightforward TELRIC model.

Related suggestions to incorporate ILEC engineering assumptions about changes in the network the ILECs propose to implement over the next three or five year period, *NPRM* ¶ 55, similarly, at best, add nothing but pointless complexity. (Pelcovits Decl., at 26-29). Incorporating these assumptions might be useful if the model were attempting to predict ILEC purchasing behavior over that period; but they do not help one jot in valuing the ILEC network.

At worst, models that purport to hypothesize an entire network based on the particular purchases an ILEC intends to make to its actual network over the next few years are irrational and lead to the recovery of costs greatly in excess of any conceivable forward-looking measurement.

Purchases and expenditures that an ILEC makes over the short term are not reliable indicators of the value of their network. Such expenditures do not reflect the scale and scope economies of the ILECs' network, economies that must be incorporated in any cost model that reflects ILEC costs. For example, the ILECs' costs of purchasing and installing telephone poles over the next several years (as old poles are blown down or are hit by cars) reflect none of the scale economies that the ILECs' enjoyed when they installed virtually all of the poles in their network. They cost more to purchase on a per-unit basis than when an entire network of poles are purchased, and they cost a great deal more to install than when poles are installed at one time. (Pelcovits Decl., at 28-29).

Additionally, the mix of equipment ILECs purchase over a few years bear no relation to the ideal mix of equipment in a network, the mix of equipment that is currently in the ILEC network, or the mix of equipment that ever will be in the ILEC network. The equipment mix reflected in the data collected in these models reflects nothing at all about the plant in an actual network. To be relevant at all, this data has to be manipulated in some manner, and that manipulation introduces a level of arbitrariness into the models that is the opposite of what the Commission suggests when it indicates that these models are more closely grounded in the "real world." (Pelcovits Decl., at 29). More generally, a model that captures only equipment that an ILEC will purchase in the near term obviously does not include the vast majority of equipment that would be required to operate the ILECs' entire network. These models therefore by their

nature include mechanisms to "capture" the cost of purchasing all of the equipment that is already in place, that is, embedded costs.

The Commission should think long and hard before lending its imprimatur to such modeling designs, which combine the worst features of all proposed models. They are overly complex, fail to reflect the appropriate economies of scale and scope, rely on information available only to the ILECs, and incorporate embedded costs. The Act itself imposes severe limits on the FCC's ability to adopt such "forward-looking methodologies tethered to actual costs, given Congress's clear intent to depart from past ratesetting statues in passing the 1996 Act." *Verizon,* 535 U.S. at 503 n.20.

D. TELRIC Models Depend Upon Real-World Information About the ILEC Network.

A variant of the ILECs' criticism of TELRIC's "efficiency assumption" is the claim that TELRIC ignores facts about the real world in favor of modeling abstractions, and so is allegedly subject to objectionable manipulation by "experts." This criticism is based on a misconception of TELRIC models and a similar misconception of the models the ILECs prefer.

It is true that any model of necessity makes simplifying assumptions. If there were no simplifying assumptions, the resulting construct would not be a model, and would be so complicated that it would be of little use to regulators. At its core, this criticism is an attack on the use of economic models of any kind to inform public policy.

But TELRIC models are linked to real network operations. Demand and customer location used in the model are based on real world data, much of it provided by the ILECs. The facts of the physical world are not ignored. It is not part of TELRIC to assume terrains are flat when they are mountainous, or sand when they are paved. Similarly, the technologies assumed

are those actually being deployed in ILEC networks. Input prices are derived from public sources. TELRIC models are firmly grounded in the real world through real-world inputs and real-world engineering assumptions. (Pelcovits Decl., at 33).

Moreover, the embedded cost models that the ILECs favor are every bit as complex as TELRIC models, rely every bit as much on simplifying modeling assumptions, and would engender precisely the same kinds of "battles of the experts" that are a feature of any contested cost case. (Pelcovits Decl., at 18-19). Indeed, embedded cost studies are *more* complex and subject to manipulation than TELRIC studies. The ILECs' books of accounts are not neatly maintained on an element-by-element basis. As a result, to make use of embedded cost data in a study used to derive network element prices, the regulators would be forced to make use of complex modeling, sampling techniques, and ultimately arbitrary assumptions. Thus, it is false to claim that embedded cost studies neatly reflect actual ILEC expenditures to provide unbundled network elements. The Supreme Court put this erroneous line of argument to rest when it concluded:

> Finally, as to the incumbents' accusation that TELRIC is too complicated to be practical, a criticism at least as telling can be leveled at traditional ratemaking methodologies and the alternatives proffered. "One important potential advantage of the T[E]LRIC approach, however, is its relative ease of calculation. Rather than estimate costs reflecting the present [incumbent] network – a difficult task even if [incumbents] provided reliable data – it is possible to generate T[E]LRIC estimates based on a 'green field' approach, which assumes construction of a network from scratch." To the extent that the traditional public-utility model generally relied on embedded costs, similar sorts of complexity in reckoning were exacerbated by an asymmetry of information, much to the utilities' benefit. And what we see from the record suggests that TELRIC rate proceedings are surprisingly smooth-running affairs, with incumbents and competitors typically presenting two conflicting economic models supported by expert testimony, and state commissioners customarily assigning rates based on some predictions from one model and others from its counterpart. At bottom, battles of experts are bound to be part of any ratesetting scheme, and the FCC was reasonable to prefer TELRIC over alternative fixed-cost schemes that preserve home-field advantages for the incumbents.

Verizon, 535 U.S. at 522 (internal citations omitted; alteration in the original).

IV. FILL FACTORS AND ACCOUNTING FOR GROWTH IN THE NETWORK

The *NPRM* asks questions about many of the input values which ultimately determine the rates that are set. As to each factor it address, the FCC asks whether the states need further guidance on the matter, and tentatively offers its views on the input. Unfortunately, as often as not the Commission's proposals would not help the states set reliable cost-based rates, but would more likely make matters worse.

The Commission first inquires whether the ILECs' actual fill factors should be "dispositive" given its tentative conclusion that models should more closely account for the real-world attributes of the network. *NPRM* ¶ 74. In so proposing the FCC adopts the ILECs' claim that TELRIC models with forward-looking fill factors do not reflect the way in which real-world networks account for growth in the network to meet new demand.

This criticism (and the proposal to use actual fill levels) is a particularly pernicious iteration of the misconception that a "realistic" model based on the actual ILEC network is preferable to one that uses a hypothetical network designed to measure the value of that network. It is not. Instead, such modeling merely adds needless complexity, and subjects the model to misuse in a way that the more simple TELRIC model does not.

There is nothing improper in theory about accounting for growth in a model by using actual fill factors or by other means. But if such a dynamic model is used, care needs to be taken to assure that current ratepayers are not assessed the costs of network additions that benefit only future ratepayers, who are actually causing these costs. For example, if "actual fill" is designed to accommodate future growth in the network over a ten year period, those costs would have to borne by all customers who enjoy the benefit of that growth over those ten years. In a model this

could be accomplished through mathematical formulae pursuant to which costs are spread out over the larger anticipated customer base, to arrive at the appropriate per customer charge. But while ILEC models always are generous in accounting for future growth in demand through the use of "actual fill," they never properly distribute those costs over the appropriate base of customers. Instead, they consider only *current* demand levels in determining the unit costs of and price for that capacity. Thus current users end up paying for facilities needed only to serve future users. That is an error. As the Commission noted in its *Local Competition Order*, the "per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a *reasonable projection* of the actual total usage of the element."[5]

By making the simplifying assumption of constructing at one time, from scratch, a network to serve current demand, and not using "actual" fill as an input, TELRIC models identify per customer costs without having to make projections about the likely growth in the network, and without having to factor these projections into the model's equations. Such simplification likely slightly overstates the cost of the network elements. The telephone network is characterized by economies of scale. By building a network that is slightly smaller than the one that actually would build in order to meet increasing demand over time, TELRIC to that extent slightly overstates the per-unit cost of the elements it prices. But this slight overstatement of costs is justified by the clarity and simplicity the "static" assumption brings to the model.

TELRIC model runs typically used by federal and state agencies have properly resolved this issue. They do not use "actual fill," but neither do they assume that the networks are sized perfectly at any point in time. Rather, they assume that all facilities are constructed with sufficient excess capacity to meet administrative needs, to permit for lack of perfect foresight in

[5] *See Local Competition Order* ¶ 682 (emphasis added).

predicting demand, as well as to handle short-term growth. This is a far more sensible approach than that proposed in the *NPRM*.

V. SWITCH RATES

The Commission has asked a series of questions about switch rates, switch discounts and switch rate structure issues.

A. Switch Rates

If the ILECs continue to use Class 5 switches in their network, and their models continue to reflect such use for the foreseeable future, then for all of the reasons we have stated, TELRIC is the best methodology to capture switch costs. While early state commission decisions typically set switch rates well above their forward-looking cost, that was not because of any defect in TELRIC, but because the ILECs aggressively supplied inaccurate input values in an effort to artificially inflate rates. Over time, most states have become increasingly sophisticated and vigilant, and many of these input errors have been corrected, bringing switch rates more closely in line with costs. The Commission here asks about one of these input disputes involving switch discounts; as a general matter, however, it is involving itself in this process too late in the day to be of much assistance to the states, who now have the greater expertise in ferreting out the double counting, multiplication errors, miscounting days of the week and other manipulations that have unfortunately characterized the ILECs' switch cost studies.

Now that these matters have largely been satisfactorily resolved, however, the ILECs appear to be moving the switching wars to a different front. They claim that there is little useful life left in their switches, that they are soon to be replaced with packet switches, and that they therefore need to recover all of the cost of their switches over the next few years.

The Commission should use this proceeding to take evidence on this question and consider its implication for TELRIC pricing. If, as the ILECs' data indicate, the demand for circuit switching is falling and as result the ILECs have excess capacity, it would be foolhardy to encourage or require the CLECs to build their own switches. This would imply that UNE switching prices should be set to allow the ILECs to recover their operating and maintenance costs calculated on a per line basis. (Pelcovits Decl., at 44-48).

TELRIC sensibly permits the ILECs to recover capital expenditures because part of the cost of providing service through a facility is the cost of replacing that facility when it wears out. But if Class 5 switches are not going to be replaced with other Class 5 switches, and there is idle capacity on those switches, and that capacity is likely to remain idle until those switches are replaced by some newer and far more efficient technology, then the efficient market price for that capacity is only the incremental cost of providing whatever additional service that can be provided over those facilities, including the cost of maintaining the facilities until they are replaced. (*Id.*, at 47).

The Commission, then, in this proceeding should take evidence on the current status of Class 5 and soft switches, and adjust its pricing recommendations accordingly.

B. Switch Discounts

The principal driver of the cost of providing unbundled local switching is the cost of the switch itself. Modeling these costs is complicated by the fact that many switch vendors offer substantial but varying discounts for new switches and switch upgrades. Typically, new switching equipment is offered at a significant discount, while upgrade or growth equipment is less heavily discounted. Appropriate switch costs should reflect the proper relative percentage of facilities provided at each price. (*See* Attachment B, Declaration of August H. Ankum, at 8-9)

("Ankum Decl.). Other important variables affecting the cost of providing switch elements are the relevant time period over which costs (and discounts) are calculated, the impact of switch access line growth, and the extent to which upgrade costs represent additional expenses of which prices must take account.

The most accurate measure of how these variables interact and are reflected in switch costs are switch vendor contracts. (Ankum Decl., at 6-12). Obviously, such contracts are how ILECs pay for their switches, and, as such, they represent a natural starting point in calculating the costs for which TELRIC prices must account.

The Commission inquires about the relevant assumptions behind vendor pricing strategies and the extent to which such assumptions are appropriate for TELRIC pricing. *NPRM* ¶ 78. Although it has been suggested that the bifurcated pricing in switch vendor contracts represents a loss-leading strategy whereby new switches are discounted below cost in order to generate future dependence on non-discounted growth expenditure, (Ankum Decl., at 6-12), this contention is both unsupportable and, in the end, irrelevant.

First, the most reasonable explanation for the differential in price between new and growth equipment is simply an issue of economies of scale. (Ankum Decl., at 15-16). New switch investment has typically been on a scale that introduces considerable savings. The transition from digital to analog switching, for example, involved the simultaneous replacement of network-wide, fully mature analog switches that served large numbers of customers. By contrast, the installation of growth facilities takes place on a far more limited scale, thus generating the cost inefficiencies of piecemeal change. (Ankum Decl., at 15).

Second, the idea that the price for new switch equipment is artificially low – in fact, below cost – in order to attract path dependent investment in switches through which vendors

will recoup their initial losses through growth equipment purchases cannot be squared with the fact that most switch investment has historically been in new switch equipment. That is, there simply has not been sufficient volume of investment in upgrades to justify a loss-leader approach. Indeed, switch contracts follow a pattern that is the precise opposite to that of a loss-leading approach. A typical loss-leading structure, such as a subscription book club, delivers a *small* volume of below cost items followed by the scheduled supply of a *large* volume of regularly priced items. Such contracts limit the volume of below-cost items and usually incorporate firm commitments to the follow-up purchases. Switch contracts neither limit the amount of new equipment a carrier may purchase, nor condition new equipment provision on subsequent purchases of growth equipment. (Ankum Decl., at 17). Under these conditions, the recouping of alleged "losses" incurred by providing new switches below cost would be uncertain, at best, or, more likely, impossible.

In any event, the debate on the justification for the switch vendors' pricing strategies is rendered largely irrelevant if switch cost calculations incorporate prices an efficient ILEC would pay over the life of the switch, that is, both the initial switch purchase and all appropriate growth additions, each with their respective discounts, as the Commission proposes. *NPRM* ¶ 78. It is a relatively straightforward matter to collect the relevant vendor pricing information, and it is equally a relatively straightforward matter to model the expected enhancements that an efficient ILEC will purchase over the life of the switch. (Ankum Decl., 18-19). The Bureau adopted such a methodology in its *Virginia Arbitration* award, and that award provides a useful model for states to follow. (*Id.*) (offering formula for addressing discount issue). Indeed, many states have adopted a similar approach both before and after the Virginia arbitration award. (*Id.* at 14).

On the other hand, it would violate forward-looking principles to include the cost of upgrades (as opposed to additions) within the TELRIC rates. A central TELRIC assumption is that the model relies on the most up-to-date current technology. It is to that extent a static model that does not contemplate changes in technology within the model. (Ankum Decl., at 26-28). As we indicated at the outset, a model that attempted to model changes in the network would be far more complicated, and would not, if applied consistently and accurately, yield different results. If the Commission were to propose a departure from the constant technology assumption of TELRIC, adjustments other than an upgrade loading are necessary. In particular, a progressive technology assumption will also generate downward pressure on pricing to account for the declining prices that technological development occasions.

Additionally, upgrades to state-of-the-art technology are typically reflected in switch vendor contracts already. That is, switch equipment is priced to reflect to cost of upgrades. (Ankum Decl., at 26-29). To add a second level of upgrade loading to the pricing reflected in the contracts would therefore create the risk of double recovery of the same costs.

C. Flat-Rated Switch Rate Design Best Reflects Cost Causation Principles.

No one disputes that rate designs should reflect to the greatest extent practicable the manner in which costs are incurred. However, in pricing switching, many states have departed from that principle and allowed the ILECs to assess switch costs on a usage-sensitive basis, even though the ILECs incur switching costs on a flat-rated, per-port basis. Although more recent decisions are adopting the more rational flat-rated design structure, the Commission would bring useful rationality and uniformity to UNE rate-making if it made clear that switching charges should be assessed on a flat-rated basis.

Flat-rate structure most closely tracks the manner in which costs are incurred by ILECs. (Ankum Decl., at 43-44). This is reflected primarily in the switch vendor contracts, which reflect per-line price structures that are volume and usage insensitive. (*Id.*, at 35-37). That is, ILECs pay exactly the same price for switch elements whether those elements are heavily or lightly utilized. Accordingly, since the element is passed on to the CLEC on the same per-line basis, there is no reason to apply any usage variation to the UNE rate. This is turn reflects engineering assumptions and practices – the only potentially usage-sensitive part of the switch is the switch processor itself, but due to advances in computer technology, processors virtually never run out of capacity because of usage. Moreover, even if there were usage-sensitive switch functions, they would be sensitive to peak usage, not average usage, and it is not practical to use peak usage in a cost calculation. (*Id.*, at 37-38). Finally, avoiding usage-sensitive charges eliminates a substantial source of dispute and error in setting usage-sensitive rates – the usage figure relied upon to set the rate. ILECs routinely provide unreasonably low usage estimates in an effort to drive up usage-sensitive charges, and states are left in the position of having to resolve disputes over usage that simply should not play a role in setting switch rates. Flat-rated switch design avoids all such disputes and so results in a more reliable rate.

Because usage-sensitive rates do not reflect the way costs are incurred, they also necessarily introduce inefficient cross-subsidies among low and high volume users. (*Id.*, at 43). These distortions in turn have anticompetitive consequences. In particular, competition for high-volume customers would be restricted.

VI. COST OF CAPITAL

The *NPRM* seeks comment on how cost of capital price inputs should be determined, and particularly how the Commission's recent clarification that cost of capital price inputs must

reflect the increased risks associated with operating in a fully competitive market should affect TELRIC pricing inquiries. Cost of capital requires a determination of three factors: capital structure – the appropriate mix of debt and equity; cost of equity; and cost of debt. (*See* Declaration of Matthew I. Kahal, at 2) ("Kahal Decl.").

A. Capital Structure

In a competitive market the paramount objective in financing investment is cost-minimization. The appropriate question thus is how a cost-minimizing firm would go about raising capital to fund a forward-looking wholesale telephone network. (Kahal Decl., at 2-3). Since equity is typically more expensive than debt, capital structure must include debt financing to the extent the market permits it. (*Id.,* at 4). A cost of capital that sets too high a ratio of equity to debt would be inappropriate for forward-looking investment, even if temporarily high stock market prices result in company data suggesting a capital structure with high equity and low debt rates. (*Id.*, at 10).

The TELRIC hypothesis is that a company is going into the marketplace to finance a competitive business of providing wholesale telecommunications inputs. For determining the mix of debt and equity that would be used, the appropriate comparison will be the mix used by companies that are going into the market to fund operations. The most relevant evidence on this point shows that the mix of equity to debt used to finance new enterprises over the last five years exhibits between a 50-60% reliance on equity. (Kahal Decl., at 4). Other measures as well shows companies approximately the same equity/debt ratio. (*Id.).* This is the most relevant data to determine how a hypothetical carrier would raise money to build a wholesale telephone network. The average ILEC book capital structure shows a similar equity-debt percentage, and could also be used to determine the appropriate ratio. On the other hand, the Commission should

reconsider and reject ratios based on market capitalization data, as that data does not reflect how companies finance their investments, and it is subject to the vagaries of the stock market and the way the market values businesses at any given time. (*Id.*, at 11-12).

B. Cost of Equity

Because the cost of equity cannot be directly observed, it has been the most contentious issue in cost of capital disputes. Because cost of equity is not directly observable, it must therefore be modeled using proxies and analytic models. The Commission is familiar with two models, the three-stage discounted cash flow (DCF) and the capital asset pricing model (CAPM), both of which are sound equity pricing models. (Kahal Decl., at 15-20).

Under either model, an appropriate group of companies must be selected as proxies for the company that raises capital to fund the hypothetical wholesale network at issue here. The FCC has provided guidance on this question in the *TRO,* requiring that TELRIC's assumption of a competitive market be reflected in the mix of companies that are used as proxies. *NPRM* ¶ 83; (Kahal Decl., at 12-13). In selecting the appropriate group of companies to model, it is also critical to evaluate the risk involved for the hypothetical carrier, since in a competitive market, the riskier the investment, the higher the cost of equity. Thus it is also highly relevant that in the *TRO* the Commission declined to unbundle all of the riskiest components of the network, and unbundled only the least risky components. In other words, some features of the *TRO* suggest a slightly higher cost of equity than previously, while others suggest a slightly lower cost of equity. On balance, two proxy groups suggest themselves: one made up of telephone holding companies that provide facilities-based service, and the other a broad-based group of unregulated companies, such as the S&P 400 or the Value Line Industrial Composite. (*Id.*, at 12-15).

C. Cost of Debt

Typically, cost of debt is the least controversial cost of capital issue because, generally, it is directly observable. Companies general use debt of varying terms, and this should be reflected in forward-looking cost of capital calculations. (Kahal Decl., at 20-21).

VII. DEPRECIATION EXPENSES

TELRIC proceedings should continue to rely on the regulatory depreciation lives prescribed by the FCC as appropriate starting points. The FCC lives are the only unbiased estimate of forward-looking lives, and the empirical evidence demonstrates that, if anything, these lives are too short. Moreover, the alternative to FCC lives – so called GAAP lives – is infected with an inherent bias that has led these so-called GAAP lives to be dramatically shorter than the already short FCC lives.

A. TELRIC Pricing Should Continue to Use FCC-Prescribed Regulatory Lives

The FCC lives are fully consistent with the principles of TELRIC and supported by the empirical evidence. The FCC lives are forwarding-looking. As the FCC has explained, it long ago "departed from its previous practice of relying largely on historical experience to project equipment lives and began to rely on analysis of company plans, technological developments, and other-future oriented studies."[6] And the Commission's future-oriented studies are unbiased. The Commission therefore concluded that its analysis represents "the best forward-looking estimates of depreciation lives."[7]

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[6] 1998 Biennial Regulatory Review, CC Docket 98-137, Report and Order, FCC 99-307, released December 30, 1999, ¶ 5.

[7] United States Telephone Association's Petition for Forbearance from Depreciation Regulation of Price Cap Local Exchange Carriers, ASD 98-91, Memorandum Opinion and Order, FCC 99-398, released December 30, 1999 ¶ 61. *See also* Majoros Decl., at 9-14.

Nothing about TELRIC alters the conclusion that the FCC lives are the proper forward-looking lives. The FCC lives are projections of expected lives for new plant taking into account expected technological change. That is exactly the right way to calculate depreciation in a TELRIC model. (Majoros Decl., at 9). The fact that TELRIC assumes a competitive environment does not change this calculation. It is the pace of technological change, not the degree of competitiveness, that determines proper depreciation lives. (*Id.*, at 12). The FCC lives are based on projections of just such technological change.

Moreover, the FCC's past projections have subsequently been confirmed by historical experience. The ILEC "reserve levels" have increased significantly since the FCC began using forward-looking depreciation practices in the early 1980s, a strong indication that the FCC lives have, if anything, been too low. (Majoros Decl., at 14-18). Even more direct evidence is provided by the actual retirement experience of the ILECs. Both the ILECs' reported retirement experience and studies of the ILECs' major accounts show that the ILECs are retiring less plant than would be expected based on FCC lives. This demonstrates that the plant is lasting longer than the FCC anticipated, which once again shows that the FCC lives are not too long, but rather, if anything, are too short. (*Id.*, at 18-21).

B. GAAP Lives Are Not An Appropriate Measure of Actual Depreciation Expense.

The ILECs have argued that financial book lives, calculated in accordance with Generally Accepted Accounting Principles ("GAAP"), are a more appropriate measure of the cost of depreciation, and should therefore replace FCC regulatory lives in TELRIC proceedings. That is not so. The inherent bias of so-called GAAP lives has resulted in projections that the empirical evidence shows are far too short.

First, the so-called GAAP lives are nothing more than management's estimates that are blessed by auditors so long as they have any reasonable basis. There is no one set of GAAP lives. Indeed, management could submit a wide range of lives – including FCC lives – that would likely be approved by auditors. (Majoros Decl., at 22-25). Thus, the lives that ILECs are presenting as "GAAP lives" are actually lives primarily estimated by their management. Second, the lives that ILEC managers have chosen to submit to auditors have been far too short. It follows *a fortiori* from the empirical evidence showing the FCC lives are too short that the far shorter "GAAP lives" are less accurate still. This is likely because the ILECs have a built-in incentive to choose short lives, as these lives can then be used as a justification for higher rates. This incentive will only increase if GAAP lives are used to set TELRIC rates. *Id.* at 23. Third, the auditors likely have approved the lives submitted by ILEC management not only because they appear within the realm of reasonableness, but also based on GAAP's "conservatism principle," under which auditors are directed to choose shorter lives when presented with a choice between reasonable alternatives. (*Id.*) *See also Prescription Simplification*, Report and Order, FCC 93-452, released Oct. 20, 1993 ¶ 46. The conservatism principle is designed to protect investors by ensuring that a company does not under-report its expenses, which it might have an incentive to do in an unregulated environment. But as we have seen, in a regulated environment, companies have an incentive to over-report, not under-report, their non-cash expenses, and the conservatism principle only reinforces this tendency. More important, by putting investor-protection before accuracy, GAAP is fundamentally inconsistent with TELRIC which aims to choose the most accurate lives possible in order to protect evenly both the regulated companies and ratepayers.

The inappropriateness of so-called GAAP lives is reflected in the Commission's consistent rejection of the use of financial book lives for regulatory purposes. And while there is a waiver provision that would allow ILECs to use financial book lives in state TELRIC proceedings, to date, no ILEC has sought such a waiver. (*See* Majoros Decl., at 24). Presumably, this is because the ILECs realize that they cannot make a case that their financial book lives are more accurate than the FCC lives.

Finally, if the Commission were to move towards use of current financial lives based on the premise that these are consistent with GAAP, consistency would require it also to move towards GAAP principles regarding "net salvage value." Indeed, the GAAP principles for net salvage value would be justified in any event, as unlike reliance on so-called GAAP financial lives, these principles would *increase* the accuracy of depreciation rates with the result that ILEC expenses would *decrease* by many billions of dollars.

Net salvage value is the salvage value that ILECs can obtain for plant they "junk" at the end of its economic life above and beyond the cost of removing the plant. Under current FCC rules, but not GAAP rules, ILECs are permitted to include this value in depreciation even when it is negative – *i.e.,* when the cost of removing the plant is higher than the salvage value. (Majoros Decl., at 25-26). They can depreciate this removal cost even though they often will not actually remove the plant in these instances or even though the actual cost of removal is less than they claim. Indeed, recent ILEC SEC filings show that the ILECs have over-recovered expenses by billions of dollars in the form of net salvage value. (*Id.*, at 26-27).

If the FCC were to move to GAAP financial lives based on ILEC arguments in favor of GAAP, it would be unconscionable for the FCC to accept only that part of GAAP that – in the ILECs' view – would lead to faster depreciation, without simultaneously accepting that part of

GAAP (net salvage principles) that would lead to longer and unquestionably more accurate depreciation. (*Id.*).

C. The Commission Should Continue to Use Straight-Line Depreciation

The NPRM also seeks comments on the appropriate depreciation curve to apply in TELRIC pricing. Straight-line depreciation remains appropriate. Straight-line depreciation has long been the depreciation method used by telecommunications companies (including ILECs) for financial reporting (in accord with GAAP) and also by regulators. As a result, departing from that method requires a strong justification. (Majoros Decl., at 33). There is none.

While some network elements might be subject to sudden and drastic price decreases (and therefore justify either an acceleration or a front loading of depreciation), others depreciate less radically or, in fact, are subject to sudden and drastic cost increases. By normalizing depreciation rates across all elements, straight-line depreciation represents a middle-path that reduces the risk of inappropriate depreciation modeling. Additionally, straight-line depreciation is easier to apply. The alternative is to front-load depreciation for some elements, on the grounds that they are subject to rapid cost decreases, and correspondingly "back-load" depreciation for those elements that have the opposite characteristics.

The net result likely would not significantly change TELRIC rates. The evidence suggests that telecommunications plant increases in value at least as often as it decreases in value. (Majoros Decl., at 34-35). Given the offsetting effects, it is unclear there would be any increase in accuracy from use of a non-straight-line method. Presumably, that is why both regulators and companies have continued to rely on the straight-line method to date. Given the Commission's stated desire to reduce the complexity of TELRIC pricing inquiries, and the risks of permitting manipulation of depreciation to account for ostensible equipment price changes,

there is not sufficient justification for abandoning the straight-line method. And abandoning this method would be particularly unwarranted if the Commission were to move towards increased reliance on ILEC financial reporting, since that has always used, and continues to use, the straight-line method.

VIII. NON-RECURRING CHARGES

Non-Recurring Charges represent a potential barrier to entry, and, to the greatest extent possible, they should be avoided. Typically, NRCs distort the competitive environment by forcing one market entrant to bear the cost of systemic expenses which benefit all market participants. To burden aspiring providers with NRCs raises the barrier to entry by requiring the CLEC essentially to subsidize other carriers.

Additionally, NRCs also create considerable risk of over-recovery by ILECs. In this respect, the importance of consistency between the network model used to calculate recurring charges and that used for NRCs cannot be overstated. Different cost models can characterize particular costs as *either* recurring or non-recurring. Unless the network model is consistent across both inquiries, there is considerable scope for overlapping characterizations and corresponding double recovery in the setting of UNE rates. (Ankum Decl., at 54).

The touchstone of accurately distinguishing between those costs that should be recovered through recurring charges and those for which non-recurring charges are warranted is the extent to which the costs in question provide benefits exclusively to a particular CLEC whose provisioning generates the costs. (Ankum Decl., at 57-58). Where costs of providing UNE access to a particular CLEC provide benefits that *only* the requesting CLEC can use, a non-recurring charge is appropriate. (*Id.*, at 57). But it is more frequently the case that CLEC provisioning provides benefits to more than the requesting CLEC. Under these circumstances, a

non-recurring charge is inappropriate since it is not equitable to require the requesting CLEC to pay for benefits that are available to others. Rather, these costs should rather be factored into recurring charges.

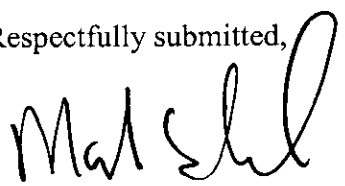
A striking example of the potential for costs properly recoverable through recurring charges being improperly assessed as non-recurring charges are the costs associated with OSS improvements needed to provide efficient inter-carrier operations. (Ankum Decl., at 63-65). To begin, these non-recurring charges distort ILECs' efficiency incentives. (*Id.*, at 58-60). The availability of full recovery for OSS improvement to accommodate CLEC provisioning provides a strong disincentive against adequate OSS investment, meaning that an ILECs OSS will operate inefficiently. When a CLEC request requires an ILEC to correct pervasive deficiencies in legacy databases and the concomitant inefficiencies that result, these changes represent improvements that accrue to the benefit of all parties, including the ILEC. (*Id.*, at 59). Since the resulting OSS changes are a network-wide improvement that create greater efficiencies and will benefit future CLEC entrants, they should not be assessed as an NRC.

Additionally, the use of recurring charges has considerable methodological advantages in simplifying TELRIC cost inquiries. (Ankum Decl., at 73-75). In particular, limiting the use of non-recurring charges eliminates cross-subsidies (from the requesting CLEC to subsequent CLECs that make use of the improvements or facilities occasioned by the first CLEC request), makes appropriate adjustments to ILEC efficiency incentives (which is consistent with TELRIC methodology in general), and reduces the risk of double recovery of costs.

IX. CONCLUSION

For the reasons stated above, the Commission should reaffirm its TELRIC rules, except in those situations in which long-run incremental cost rules send more appropriate economic signals and better promote competitive markets.

Respectfully submitted,



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